

Iowa Department of Public Health (IDPH)
Occupational Health and Safety Surveillance Program (OHSSP)
Annual Report
July 1, 2011 - June 30, 2012

Fundamental Surveillance

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Project Aims

The overall aims of the Iowa OHSSP Fundamental Surveillance Project are to:

- Grow capacity for occupational health and safety surveillance within IDPH and Iowa.
- Establish and maintain contacts with organizations, groups, and individuals who may provide or use surveillance data.
- Collect and analyze surveillance data for a minimum of 13 national Occupational Health Indicators (OHI) and 2 Iowa-specific indicators identified by IDPH.
- Design and implement a dissemination plan of surveillance data and project findings to local, state, and federal programs.
- Actively participate and collaborate in CDC/NIOSH OH State-Based Surveillance (SBS) meetings, conference calls, and projects.
- Design and implement a periodic program review and evaluation process that looks at program process, effectiveness, and data source assessment.
- Involve the IDPH OHSSP Stakeholders Group (advisory committee) in the evaluation process.

Significant Outputs

- Data from two program data areas (ABLES and FACE) were included for the first time in the IDPH annual Report of Surveillance of Notifiable and Other Diseases. The 2010 report, which was published in the summer of 2011, included data from calendar year 2010 (<http://www.idph.state.ia.us/Cade/Default.aspx#CR>). The report containing 2011 data will be published in August 2012.
- IDPH has increased its participation in the Iowa Statewide Traffic Records Coordinating Committee (STRCC). This has included sharing data and the impact of state work-related motor vehicle related injuries and fatalities with a wide audience of state programs and gaining their support to address the issues through partnership activities. The Iowa Rural Roadways Safety Video Project (<http://www.public-health.uiowa.edu/icash/programs/rural-roadway-safety-video-project.html>) is one outcome of partnerships formed with the Iowa Department of Transportation, the Iowa Governor's Traffic Safety Bureau, and the Iowa's Center for Agricultural Safety and Health.
- The program coordinator presented data findings at conferences at the request of Iowa OSHA Consultation and the Region 7 VPPPA (Voluntary Protection Program

Participants Association) representatives. This represents a new acceptance of the Iowa OHSSP as a source of information.

- The Healthy Iowans Health Improvement Plan 2012-2016 includes occupational objectives. This was the outcome of the Fundamental Project gathering input from state stakeholders to jointly write and submit three objectives related to occupational health and safety issues.
(http://www.idph.state.ia.us/adper/common/pdf/healthy_iowans/plan_2012_2016.pdf--pages 43-44)
- Recruited first-time participation from 14 new partners for the 2012 Farm Progress Show to provide health and safety demonstrations, displays, and educational materials to farmers and agricultural workers. The new partners are:
 - 1) Farm Safety for Just Kids
 - 2) Great Plains Center for Agricultural Health (University of Iowa)
 - 3) Healthiest State Initiative – Iowa Department of Public Health, Hy-Vee, Wellmark, Iowa Sports Foundation, Fuel Up to Play 60 (Midwest Dairy)
 - 4) Iowa State University Center for Traffic Research and Education
 - 5) Iowa Cancer Consortium
 - 6) University of Iowa Holden Comprehensive Cancer Center
 - 7) Iowa Department of Public Health Comprehensive Cancer Control Program
 - 8) Iowa Department of Public Health Chronic Disease Prevention and Management Program
 - 9) Iowa Workforce Development I-OSHA Consultation
 - 10) Nationwide Agribusiness
 - 11) National Education Center for Ag Safety
 - 12) Operation Lifesaver – Iowa
 - 13) Roger Stutsman (lost son in farm accident)
 - 14) Trinity Fort Dodge Occupational Health

The program coordinator is the chief organizer of the health and safety tent at the 2012 Farm Progress Show which will be held in Iowa on August 28-30, 2012. This event attracts over 150,000 participants.

- Led CSTE OH webinar planning committee resulting in national webinar training options.
- Actively participated in the State-Based Surveillance group, ABLES, Pesticide, and FACE electronic mail list discussions, teleconferences, and meetings throughout the 2011-2012 fiscal year.
- Actively participated in the planning for the 2012 CSTE Annual Conference Occupational Health Subcommittee Sunday preconference workshop, including the recruitment of speakers.
- Provided beta-testing and feedback to NIOSH regarding their development of the OHI database tool.
- OHSSP personnel provided educational information and displays at various state-wide events, including the Governor's Conference on Public Health with over 550 participants and the Governor's Safety Conference with over 400 participants.

Reports

- Iowa Rural and Agricultural Health and Safety Resource Plan - November 2011 (partner collaborative report)
- IDPH Iowa Surveillance of Notifiable and Other Diseases 2010 Annual Report - July 2011 (collaborative report)
- Iowa's Center for Agricultural Safety and Health 2011 Annual Report - Fall 2011 (partner collaborative report)
- Healthy Iowans: Iowa's Health Improvement Plan 2012-2016 (collaborative report)

Communication Publications

- Press Release: Continued Heat a Concern for Outdoor Workers 08/01/11
- Web posting: National Farm Safety and Health Week 9/21/11
- Twitter posting: December 2011 (reference to NIOSH eNews publication)
- Iowa Department of Public Health ACCESS Update December 2011 – IDPH and Partners Release New Safety Materials
- NIOSH eNews December 2011, News from Our Partners program information
- Iowa Health Focus article January 2012 – New occupational safety materials available
- Iowa Department of Public Health ACCESS Update article promotion of the 2012 Farm Progress Show Health & Safety Tent - June 2012
- Iowa Department of Public Health Program Overview (Environmental Epidemiology) – updated periodically

Epi Update articles (weekly newsletter sent out using an electronic mail list to public health and medical providers across Iowa by the IDPH Center for Acute Disease Epidemiology (CADE))

<https://www.idph.state.ia.us/IdphArchive/Archive.aspx?channel=EpiUpdate>

Articles authored by IDPH OHSSP that involved worker safety and surveillance:

- Agriculture health & safety resource (response to summer farm fatalities) - 9/9/11
- Encourage safe practices on the farm - 9/23/11
- Exposures to hazardous drugs used in chemotherapy - 10/21/11
- Vehicle overturns and older workers dominate 2011 Iowa ag-related fatality stats - 10/28/11
- Anhydrous ammonia exposures - 11/11/11
- New website on safe disposal of needles and sharps - 11/11/11
- Healthcare worker safety linked to patient safety (fatigue, sleep shift issues) - 1/13/12
- Blood lead test reporting reminder - 2/24/12
- Anhydrous ammonia exposure planning - 04/06/12
- Phosphine exposure at a vet office – MMWR referenced - 5/4/12

Presentations

- CSN Rural Injury Prevention Community of Practice Webinar - presentation of Iowa Strategic Plan for ATV Safety – 9/15/11
- Iowa Occupational Public Health Stats and Outbreaks – Iowa Governor's Safety Conference - 11/3/11
- Why Do Farmers Take Risks and What Can We Do About It? - Midwest Regional Agricultural Safety & Health Conference - 11/16/11
- Adult Lead Poisoning in Iowa – It's Not Just Kids - Iowa Governor's Conference on Public Health - 04/18/12
- The Good, Bad, and Ugly of Occupational Health Indicators in Iowa – 2012 Region VII Voluntary Protection Programs Participants' Association (VPPPA) - 05/09/12

- Adult Lead Safety for Workers – Iowa manufacturing plant workers, three shifts - 05/10/12
- Iowa Adult Lead Data Webinar – 5/18/12
- Storybanking for Occupational Health Programs Webinar – arranged for IDPH speaker, in partnership with CSTE OH - 05/23/12
- Adult Lead Poisoning Cluster from Ayurvedic Product Usage in Iowa, 2011 – poster presentation 2012 CSTE Annual Conference (nominated as outstanding poster) - 06/03/12 - 06/06/12
- 2012 Farm Progress Show Partners Update Webinar – 6/25/12

OHSSP Displays

- Iowa State Fair - 8/11/11 (partnership with Iowa DOT and Iowa Operation Lifesaver)
- Nationwide Insurance - 8/25/11
- Keeping Kids Safe Seminar - 09/13/11 (collaboration with Iowa ATV Safety Task Force)
- Iowa Governor's Safety Conference - 11/3/11
- Midwest Regional Agricultural Safety & Health Conference - 11/16/11

Potential Outcomes

- Iowa OHSS program personnel are active members of the Iowa Environmental Public Health Tracking program and the Iowa Department of Public Health data warehouse project. Both of these activities provide an additional platform to disseminate Iowa occupational data or indicators to the public.
- Iowa Occupational Health Indicators (OHI) for population demographics and indicators #1-19 through 2009 have been submitted to NIOSH and CSTE. These data, as well as additional analysis of subpopulations, have been shared with a growing number of stakeholders across the state. Project activities continue to increase awareness of the Iowa data to additional stakeholders at the state and local level.
- The fundamental surveillance program has shared Iowa ABLES data including 2011 exposures rates, examples of take-home lead exposures to family members, and updated recommendations regarding medical concerns for adults with low-level lead exposure through a number of venues including conference presentations, state-wide webinars, and on-site training at a manufacturing plant. Iowa had 832 individuals with blood lead levels of 10 micrograms per deciliter ($\mu\text{g/dL}$) or higher in 2011, with over 90% known to be work-related. Iowa's prevalence rate for adult lead exposures at levels of 10 $\mu\text{g/dL}$ or higher and 25 $\mu\text{g/dL}$ or higher is consistently double the national prevalence rates.
- Information regarding a large ayurvedic-linked cluster of adult lead exposures in 2011 has been shared nationally through a poster at the 2012 CSTE Annual Conference, and to state medical and public health providers through presentations and webinars.
- The program coordinator, networks routinely with the Pesticide and FACE expanded surveillance projects of the OHSSP to develop and disseminate data and materials from their findings.

Intermediate Outcomes

- Project data (OHI, Pesticide Exposures, and ABLES) has been used by other public health and non-profit groups in the planning and activity implementation for their programs. This includes pesticide applicator training for licensure, lead abatement and renovation, repair, and painting (RRP) training for certification, and motor vehicle rural roadway safety outreach programming.
- The program coordinator worked in collaboration with occupational health stakeholders to draft and submit objectives which were included in the Healthy Iowans: Iowa's Health Improvement Plan 2012-2016. The OHSSP Fundament Project will continue collaborative work with partners toward achieving the goals of the plan.
- The program coordinator presented Iowa ABLES data and current recommendations regarding low-level exposures to the safety manager of a local manufacturing plant that is part of an international company. The safety manager allowed staff to present the material to all three shifts (290 workers) at the plant and has increased blood lead testing of the employees, even though it is not mandated by OSHA based on current air monitoring. Subsequent to the trainings, additional workers have been identified with abnormal blood lead results, and a 12-month old child has potential take-home lead exposure. The plant is re-evaluating its formal safety program and has already implemented some changes for workers at risk of lead exposure.

End Outcomes

- The Iowa Fundamental Surveillance project and expanded programming areas of pesticide poisoning surveillance and work-related fatality surveillance (FACE) have worked to increase the capacity of the Iowa Occupational Health and Safety Surveillance Program over the past five years. At this time, IDPH is still seeing increases in case numbers as surveillance capacity has improved. IDPH anticipates being able to demonstrate program impacts through decreased morbidity and mortality (end outcomes) in future years.

Pesticide Poisoning Surveillance Program

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Project Aims

The overall aims of the pesticide poisoning surveillance program are to identify, characterize, and report occupational pesticide illness in Iowa by:

- Developing enhanced program capacity to perform activities meeting the established Sentinel Event Notification System (SENSOR) for pesticide poisoning surveillance guidelines for state health department programs with written policies and procedures for performing case ascertainment, medical record review, and interview follow-up of reported cases meeting specified criteria.
- Actively participating in CDC/NIOSH and Consortium of Occupational, State-based Surveillance (COSS) meetings, and conference calls, and collaborating with NIOSH in special projects for the pesticide poisoning surveillance programs and grantees.
- Collecting and analyzing Iowa reports of pesticide poisoning to gain additional information regarding the extent, causes, and contributing factors of pesticide poisoning in the state.
- Collecting and analyzing data to identify significant worker health and safety problems in Iowa, potential risk factors for pesticide poisoning, worksites or environments that place workers at high risk, and special populations of workers most at risk.
- Building or enhancing relationships with stakeholders inside and outside Iowa to guide and strengthen IDPH pesticide poisoning surveillance.
- Designing and implementing a dissemination plan for surveillance data and project findings to local, state, and federal programs that need the information to guide future policy and programming decisions.
- Collaborating with stakeholders to support the development and dissemination of intervention and prevention strategies that are applicable to the occupations, industries, and working conditions of the Iowa workforce.
- Designing and implementing a periodic program review and evaluation involving the IDPH OHSSP advisory committee to assess the effectiveness of the program, including the process and data sources.

Significant Outputs

- Co-authored two MMWR reports on illness and injury associated with pesticides.
 - MMWR: MMWR / October 7, 2011 /60(39);1343-1347 Acute illness and Injury from Swimming Pool Disinfectants and other Chemicals – United States, 2002-2008.
 - MMWR: MMWR / April 27, 2012 /61(16) Zinc Phosphide Poisoning from Exposures at Veterinary Hospitals – Michigan, Iowa, and Washington 2006-2011.
- Co-authored the following article that appeared in the American Journal of Industrial Medicine 55:571–583 (2012): Gender Differences in Acute Pesticide-Related Illnesses and Injuries Among Farmworkers in the United States, 1998–2007.

- Co-authored a national presentation.
 - Characteristics and Magnitude of Acute Pesticide-related Illnesses Associated with Pyrethrins and Pyrethroids – 11 States, 2000-2008. Presented April 15th at the 61st Annual EIS conference by N. Hudson.
- Collaborated with Iowa Department of Land Stewardship (IDALS) (state regulatory agency for pesticides) to share investigation information between organizations.
- Developed and disseminated mandatory reporting information, report forms, case investigation forms, and reference chart for pesticide poisonings, including posting on division web site.
- Became member of National Environmental Public Health Tracking pesticide initiative workgroup.
- Attended the 2012 Winterfest as a representative of the Iowa Pesticide Poisoning Surveillance program.
- Worked closely with the Iowa Statewide Poison Control Center to receive accurate and timely poisoning reports.
- Conducted case matching with the NDPS data provided by NIOSH.
- Received 2012 NIOSH Bullard-Sherwood Award for Research to Practice: Knowledge Category.

Potential Outcomes

- Staff of the pesticide prevention program are active members of the Iowa Environmental Public Health Tracking program and the Iowa Department of Public Health data warehouse project. Both of these activities provide an additional platform to disseminate Iowa pesticide data to the public.
- The Division of Environmental Health has developed policies for comprehensive case ascertainment and follow-up procedures for all the required environmental reportable conditions in the state of Iowa. The developed procedures have been tested and approved. These provide a unified procedure for complete case management.
- Along with formalizing the surveillance follow-up activities, Iowa has been examining the need for a standard report format and the best time to generate an annual report. Factors that are considered are peak reporting months (summer and fall), latency for data maturity and late delayed reporting, and defining sub-populations that are of concern to the Iowa public.
- Iowa has worked closely with the Iowa Statewide Poison Control Center to receive accurate and timely poisoning reports. The pesticide prevention program receives a weekly Toxicall file from the Iowa Statewide Poison Control Center. This file includes the entire case report including call notes and follow-up reports. The IDPH Pesticide Poisoning Surveillance Program received a total of 3,888 reports in 2010 and 3,055 reports in 2011. The IDPH collaborates with IDALS on any cases of label violations, over-spraying, or other areas of public health concern. Cases of interest this grant year include crop duster crashes and over-spraying/drift from crop dusters. Iowa is currently in the process matching cases with the NDPS data provided by NIOSH.

Intermediate Outcomes

- Iowa is committed to not only collecting pesticide poisonings that occurred at work, but also those that are reported at any site such as private residents or public locations. The Iowa Pesticide Program analyzes yearly data and develops an annual report that is published on the IDPH website. A report is also submitted to IDALS, the agency responsible for enforcement of pesticide label violations. The annual data is also parsed into sub-populations for analysis, such as people under the age of 18 and exposure at work. These data are used to identify possible trends in exposure reporting.
- The Iowa Pesticide Poisoning Surveillance Program collaborates with IDALS on continual basis to consult and transfer investigative materials between the organizations.

End Outcomes

- Two staff of the OHSS program are advisory members on the Agriculture Health Study board, and participate in or are members of COSS, Iowa Environmental Health Association, Iowa Rural Health Association, and various other organizations. The Iowa Pesticide Poisoning Surveillance Program also works with the Iowa State University Extension Service, which provides training to pesticide applicators. These activities directly impact the training and information provided to applicators and should reduce pesticide exposures.

FACE Program

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Project Aims

The overall aims of the FACE program are:

- To conduct timely and comprehensive surveillance to identify all traumatic occupational fatalities occurring within the State of Iowa.
- To conduct comprehensive investigations of traumatic occupational fatalities using the NIOSH FACE investigative model.
- To develop and disseminate prevention strategies to reduce the risk of fatal occupational injuries.
- To provide graduate students interested in pursuing a career in occupational health and safety the opportunity to participate in Iowa FACE Program investigation and dissemination activities.

Significant Outputs

- The Iowa FACE Program is organized under the umbrella of the Iowa Injury Prevention Research Center (IPRC) in the University of Iowa College of Public Health. FACE PI Dr. Marizen Ramirez, Co-PI Dr. Corinne Peek-Asa, and Coordinator John Lundell all serve on the IPRC leadership team. The IPRC was recently notified by the National Center for Injury Prevention and Control (NCIPC/CDC) that Iowa is one of six centers funded for an additional five-year cycle. This provides continuity to the FACE Program and access to a large number of injury prevention investigators from multiple disciplines.
- The Iowa FACE Program surveillance system continues to be multi-faceted, relying on media reports, public safety and EMS reports, medical examiner reports, and press clippings as sources for cases. The Iowa FACE program recently regained access to death certificates, which will aid in the confirmation of a death being occupational in nature. Long-standing established relationships with colleagues across the state contribute to the timely and comprehensive identification of FACE cases. From July 1, 2011 to June 30, 2012 a total of 98 cases have been identified (some cases are subject to final verification).
- During the past year the Iowa FACE Program has developed new and close-working relationships within two agencies in the Iowa Department of Public Safety. Two Special Agents with the Iowa Division of Criminal Investigation (DCI) spent considerable time assisting on a FACE Program investigation of a fatal shooting of an on-duty Sheriff's Deputy in a rural Iowa county. This collaboration resulted in a DCI Special Agent in Charge twice being a guest instructor in a University of Iowa College of Public Health Occupational Health and Safety graduate course. The Iowa FACE Program also worked

closely with the State Fire Marshal's Office, which is in the Department of Public Safety, on the investigation of multiple fatal fires.

- The Iowa FACE Program extensively uses the media to highlight workplace hazards and disseminate prevention messages. Examples include producing news releases responding to an increase in tractor rollover deaths and also in response to an increased number of grain engulfment deaths. Both of these releases led to considerable radio, television, and newspaper coverage. FACE Coordinator John Lundell was interviewed for a story that ran on CNN-Money.com highlighting farming and ranching as one of America's most dangerous occupations. Another example of Iowa FACE using the media was contributing to an editorial in the Iowa City newspaper encouraging drivers to be cautious around school crossing guards (information on this issue from the New Jersey FACE Program was referenced). The Iowa FACE Program and Iowa Department of Public Health staffs continue to collaborate in the development of hazard alerts, media releases, and presentation opportunities.

Publication and Media Highlights

Farm Families Alive & Well (vol. 18 issue 2 – March 2012) Safety Tips for Ag Workers: Lessons Learned from Fatality Investigations (TR Anthony)

<http://cph.uiowa.edu/GPCAH/pubs/Alive&WellMarch12.pdf>

Iowa FACE program warns farmers of tractor overturn risk (8/18/2011) <http://www.public-health.uiowa.edu/media/releases/rd.asp?rslid=897>

<http://www.radioiowa.com/2011/08/19/u-i-issues-safety-alert-after-spike-in-tractor-rollover-deaths/>

<http://www.healthcanal.com/public-health-safety/19795-iowa-FACE-Program-warns-farmers-tractor-overturn-risk.html>

Iowa FACE program warns of grain entrapment risk (10/19/2011) <http://www.public-health.uiowa.edu/media/releases/rd.asp?rslid=916>

America's Most Dangerous Job: Farmer and Rancher

http://money.cnn.com/galleries/2011/pf/jobs/1108/gallery.dangerous_jobs/5.html

- Across the country there is an alarming increase in injuries and fatalities to operators and passengers on all-terrain vehicles (ATVs). Between July 1, 2011 and June 30, 2012 the Iowa FACE Program identified seven fatalities among ag workers using ATVs. The victims in two of the incidents were 7 and 10 years old with the oldest being 81 years old. The FACE Program has been a co-supporter with other ag-safety programs at the UI of a newspaper clipping service capturing ATV-injury-related articles. This data is being shared with an active multi-disciplinary ATV safety taskforce at the University of Iowa. John Lundell is a member of this taskforce along with emergency department physicians, trauma nurses, DNR officers, Department of Public Health representatives, and others. They have leveraged over \$350,000 from the Kohl's Foundation to support their efforts. The group has established a comprehensive surveillance system of ATV injuries, produced an effective educational safety curriculum for use with groups of varying ages, had a trailer manufactured with an actual ATV mounted on it that tilts to demonstrate how to avoid ATV rollovers, conducted an anticipatory guidance survey of family practice physicians, and conducted undercover customer stings at ATV dealers. The IPRC awarded a grant to a member of the taskforce to assist in developing an ATV simulator. All these activities are enriching the FACE Program outreach efforts to reduce ATV-related occupational fatalities.

- The Iowa FACE Program has provided a wealth of opportunities for graduate students interested in occupational health and safety.
 - 1) Three students in the Industrial Hygiene, Occupational Epidemiology, and Agricultural Safety programs have assisted in the SOC and NAICS coding of FACE cases.
 - 2) A Medical Fellow worked extensively on a project with the State Medical Examiner's Office to analyze toxicology results from autopsies of workers killed on the job.
 - 3) Findings from the Iowa FACE Program have been used extensively in a number of graduate course lectures and presentations throughout the fall and spring semesters. For example, in the occupational safety course (part of the industrial hygiene program), students were instructed to develop dissemination products (e.g., hazard alerts, media briefings) based on various types of occupational deaths researched by our FACE program as well as NIOSH and other FACE states.
- Since July 1, 2011, six investigative reports have been revised and resubmitted to NIOSH based on their comments. Two new investigations are underway and five more have been identified and are in the initial stages.

Potential Outcomes

The Iowa FACE Program continues to follow NIOSH priorities when identifying cases to investigate. In addition, the program has developed interests in investigating cases involving Amish workers, disabled workers, and violence-related cases. Iowa Trauma Investigator, Ms. Stephanie Leonard, lives in an area of rural Iowa with a high percentage of Amish residents. Her geographic location has facilitated her ability to conduct investigations involving Amish workers. FACE PI and Co-PI Drs. Marizen Ramirez and Corinne Peek-Asa both have established research experience in workplace violence, which has led to the investigation of worker homicides and suicides.

Intermediate Outcomes

The Iowa FACE program has formally collaborated with other FACE Programs and NIOSH on two fatality investigations in the past year. On October 5, 2011, a 41 year-old volunteer fire fighter was struck and killed while directing traffic at the scene of a motor vehicle crash. The NIOSH Fire Fighter Fatality and Investigation Program was assisted by Ms. Kathy Leinenkugel of the Fundamental Surveillance Program on the investigation of this incident.

On February 9, 2012, a 37 year-old female was overcome by toxic fumes and died while refinishing a bathtub using methylene chloride. Information from the Iowa FACE investigation of this incident was shared with NIOSH and other state FACE Programs as part a collaborative investigation and efforts to enact stronger control on the sale and use of this product. The IDPH Lead Professional Certification program is also using this information in lead professional training curricula to illustrate the hazards of using methylene chloride.

The toxicology study of autopsy results of workers killed on the job is providing new and important information on the extent, influence, and types of drug use among the workforce. The toxicology study has been presented at the 2011 NOIRS in Pittsburgh, PA and the national NIOSH FACE Program conference held in Boston, MA. A scientific publication is in development.

End Outcomes

The FACE program strives to reduce the number and prevalence of fatal occupational injuries by investigating cases of fatal, occupational injuries and by developing and disseminating prevention strategies to reduce the risk of fatal, occupational injuries. The FACE program attempts to document successes in specific occupations and/or populations. Unfortunately, it seems that as progress is being made in one specific area, another at-risk population emerges (e.g., older farmers).